# OERR REQUIREMENTS AND CONSIDERATION FOR VIRTUAL COMMUNICATION TECHNOLOGY

## Background

The U.S. Environmental Protection Agency (EPA) Office of Emergency and Remedial Response (OERR) has responsibility for administering the Superfund hazardous waste cleanup program. In recent years, the office has increasingly relied on Internet technology to ensure that program information is widely communicated to a variety of audiences. The Superfund Web site, in particular, has been a major conduit for getting the most current program information to internal and external audiences. As such, the site has experienced an exponential growth in terms of the number of people visiting the site and in the amount and variety of information that is available to users.

As part of the ongoing effort to increase efficiency of business operations through the use of emerging technology, OERR, in collaboration with Office of Information Resources Management/Enterprise Technology Services Division (OIRM/ETSD), is interested in assessing the technologies of virtual communication. The utilization of virtual communication technology may allow OERR to take advantage of cost savings while expanding their audience and providing lower set-up and maintenance costs. In the last two years the technology of virtual communications has significantly advanced to a point where it is feasible to apply these tools to conduct entire meetings and events. Since OERR has occasion to conduct activities across all 10 EPA Regional Offices and Headquarters, travel costs can be substantial. Some of these costs may be eliminated through the utilization of virtual communication technology for conducting virtual meetings and events.

In order to assess the extent to which virtual communication technology can enhance OERR operational efficiency and/or lower costs, OERR conducted interviews with EPA personnel to gather requirements for the use of virtual communication technologies. The participants selected for interviews were chosen because of their reputation for enhancing program operations through the use innovative technologies. In addition, they represent parties that may be potentially affected by the use of virtual communication technology.

Some of the topics that were covered during the interview were:

- Goals for the use of virtual communication technologies;
- Measures of success for the use of virtual communication;
- Uses of virtual communication technologies;
- Technology and policy issues related to the use of virtual communication; and
- Long-term legacy and vision for virtual communication technologies.

## Interview Highlights

This report summarizes the information that was collected during the requirements gathering. In general, the information was collected during interview sessions in which participants were asked to outline their needs for virtual communication technologies. Participants were also asked to propose their measure of success for the use of virtual communication. The potential virtual communication solution to address the requirements incorporated an analysis of currently available hardware and software products for conducting virtual communication, and ways that these products could be used to address the needs of OERR. Included in this report is a matrix, Table 1, which presents OERR's requirements for virtual communication, recommendations for addressing the virtual communication requirements, and measures of success for addressing the virtual communication requirements. The following highlights some of the major points discussed during the interviews:

- **Virtual communication will allows participants to overcome time and space**. From town meetings to national events, virtual forums will bring like-minded parties together in a unique way.

- **Showcase virtual communication technologies during Earth Day 2000 celebration**. During the celebration, virtual communication technologies can provide a means for other EPA programs and offices to reach out to internal and external stakeholders.

- **Using virtual communications technologies can enhance business process and facilitate improvements**. Virtual communications technologies enable flexible workplaces, and the ability for people to work collaboratively and share real-time data.

- **Participation will determine the success of a virtual communication technology**. The measure of success for a virtual communication technology will be determined by the number of internal and external parties that participate in virtual meetings and events, use the technology, and find it useful

## Goals for the Use of Virtual Communication Technologies

During the requirements gathering process, participants provided their goals for the use of virtual communication technologies. This included OERR gaining an understanding of how to use virtual communication technologies and what is involved with conducting a virtual activity; implementing the use of virtual communication within OERR business process and activities; and the "buy in" by OERR and EPA senior management of virtual communication as a legitimate business tool for communicating. In addition, participants expressed that a goal for a virtual communication solution should be one that is user friendly, easy to use, and does not require extensive training. The ability to use virtual communication to overcome the constraints of time and location is another goal that the participants expressed.

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**TABLE - 1**
**OERR REQUIREMENTS AND CONSIDERATION FOR VIRTUAL COMMUNICATION**

| Requirements/Goals | Recommendations for Addressing the Virtual Communication Requirement | Measures of Success for Addressing the Virtual Communication Requirement |
|---|---|---|
| Establish recommendations for how to conduct business and activities in a virtual environment | • Gather information related to the available tools and lessons learned from past virtual communication activities.<br>• Identify tools, host, and equipment needed to run virtual event, and the equipment needs of participants.<br>• Plan, develop, and conduct small-scale pilot virtual forums and virtual Earth Day 2000.<br>• Assess the effectiveness and performance of virtual communication technologies.<br>• Develop suggestions for guidance and procedures for conducting virtual forums. | • Development of recommendations as to how the Agency IRM infrastructure can be enhanced to support virtual. communication technologies in the future.<br>• Recommend guidance and operating procedures for conducting virtual communication activities. |
| Determine how to involve others in a virtual environment | • Conduct a vendor demonstration and presentation for EPA panel.<br>• Develop and implement a communication strategy to promote virtual communications.<br>• Identify existing meetings and events to evaluate virtual forum technologies.<br>• Gather information related to the available tools and lessons learned from past virtual communication activities.<br>• Develop a participant feedback loop during virtual communication activities | • The successful involvement of internal and external parties during virtual Earth Day 2000 celebration.<br>• Providing material on public access web site to promote involvement in virtual communication.<br>• The use of virtual communication technologies for creating online committees of stakeholders |

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| Requirements/Goals | Recommendations for Addressing the Virtual Communication Requirement | Measures of Success for Addressing the Virtual Communication Requirement |
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| Develop and promote etiquette for conducting business and activities in a virtual environment | • Gather information related to the available tools and lessons learned from past virtual communication activities.<br>• Participate in virtual communication activities.<br>• Develop "rules of the road" for conducting virtual communication activities. | • Implementation of hurdle free pilot forums and national virtual event.<br>• Development of training material for virtual forums moderator/facilitators and support personnel. |
| Define how virtual communication technology can serve OSWER | • Use virtual Earth Day 2000 celebration to showcase how virtual communication technologies can enhance how business is performed.<br>• Identify existing meetings and events to evaluate for virtual forum technologies.<br>• Incorporate virtual communication technology in current business process (e.g., records management).<br>• Involve ETSD and the New Information Office (nIO) in the marketing and support for virtual communication technology . | • Buy in of virtual communication technology by OERR senior management team.<br>• Provide ability to capture content of meetings and events.<br>• Provide ability to perform real-time data sharing and collaboration.<br>• Recognition that virtual communication technology is a unique vehicle for communicating.<br>• Reduction in travel cost.<br>• Increased participation in meetings and events.<br>• Incorporation of virtual communication technologies in Office of Solid Waste and Remedial Response (OSWER) business process. |

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| **Requirements/Goals** | **Recommendations for Addressing the Virtual Communication Requirement** | **Measures of Success for Addressing the Virtual Communication Requirement** |
|---|---|---|
| Determine activities and services that can be facilitated using virtual communication technologies | • Identify existing meetings and events to evaluate for virtual forum technologies.<br>• Determine business processes that can be enhance through the use of virtual communication technologies. | • The successful use of each virtual communication technology to enhance the original purpose of meeting or activities.<br>• The successful use of four or more technologies during virtual Earth Day 2000.<br>• The use of virtual technologies by other programs and offices. |
| Resolve technical, policy, and training issues relating to virtual communication technologies | • Research and identify the key components of virtual communication technology.<br>• Identify and interview potential vendors providing hardware/software products for use in virtual communications.<br>• Conduct vendor demonstrations and small-scale pilot forums.<br>• Investigate and recommend solutions for procuring virtual communications services and equipment.<br>• Identify tools, host, and equipment needed to run virtual event, and the equipment needs of participants.<br>• Support the development of IRM guidance for the use of virtual communication technology Agency wide.<br>• Establish whether a commercial off-the-shelf virtual communication product can be used or alternatively, whether one will need to be created. | • The successful use of each virtual communication technology to enhance the original purpose of meeting or activities.<br>• The successful use of four or more technologies during virtual Earth Day 2000.<br>• Successfully host pilot forums and national virtual event.<br>• Detailed strategy for procuring virtual communications services and equipment via outsourcing or leasing.<br>• Developing a business plan for the use virtual communication technologies. |

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| Requirements/Goals | Recommendations for Addressing the Virtual Communication Requirement | Measures of Success for Addressing the Virtual Communication Requirement |
|---|---|---|
| Provide an easy-to-use virtual communication technology solution that does not require extensive training; enables flexible workplaces; allows participants to overcome time and space constraints; provides the ability for real time-sharing of environmental data and conditions; and allows people to work collaboratively. | • Interview vendors to assess the viability of products and services.<br>• Conduct vendor demonstrations.<br>• Assess the effectiveness and performance of virtual communication technologies to meet OERR needs.<br>• Monitor and help facilitate virtual forums.<br>• Assess user feedback from pilots and national virtual forums. | • The use of virtual communication technologies to enable a flexible workplace where workers can work as productively outside the office as in the office.<br>• The use of virtual communication technologies by program offices and the Regions to strength relationship with stakeholders.<br>• The use of video and other multimedia elements on web site for environmental monitoring.<br>• Providing the ability to perform collaborative development of products. |

**Measures of Success for the Use of Virtual Communication**

In order to access the success of using virtual communication, participants were questioned about their criteria for judging the success of virtual communication technologies. All the participants expressed that the degree of involvement of internal and external parties during virtual activities is the most important barometer for judging the success of virtual communication. Other criteria for measuring the success of virtual communication technologies include being able to host small scale pilot virtual forums and a national virtual Earth Day 2000; integrating virtual communication technologies into OERR business process; and developing suggestions for guidelines and procedures for implementation virtual communication technologies within OERR and Office of Solid Waste and Remedial Response (OSWER).

**Uses of Virtual Communication Technologies**

When questioned about the uses of virtual communication technologies, the participants described an assortment of uses. This includes using the technologies to host celebrations such as Earth Day 2000. The technologies can also be used to capture the content of meetings, assure consistency for record management, and allow for a flexible work place where people can be as productive in the office as out of the office. In addition, virtual communication technologies will provide OERR a means to expand the services and products it provides. Virtual communication can also be used to develop communities of stakeholders with shared interest.

**Technology and Policy Issues Related to the Use of Virtual Communication**

To implement the use of virtual communication within OERR, the participants articulated a number of issues that need to be resolved. This includes analyzing the pros and cons of in-house investment and development versus other means for procuring virtual communication services and equipment; developing a strategy for leasing or outsourcing for virtual communication services and equipment; identifying vendors and products for conducting virtual communication; and working with OIRM/ETSD to develop a business plan for the Agency-wide use of virtual communication technologies.

**Long-term Legacy and Vision for Virtual Communication Technologies**

Virtual communication technologies can be used by EPA Headquarters and Regional programs and offices to strengthen their relationship with stakeholders. Another vision expressed by participants for virtual communication include using the technologies to provide real time environmental data and on site conditions to decision and policy makers. Finally, participants envisioned that the regular use of virtual communication technology would provide EPA senior management a means to conduct panel discussions and town meetings without the constraints of time and location.

**Conclusion**

In general, the requirement for virtual communication technologies revolved around learning how to use the technologies and what is involved with implementing its use within OERR. Additionally, participants provided criteria for measuring the success of a virtual communication technology and its usage. The information gathered during the interviews will provide a baseline as OERR's examines the use of virtual communication technology.

| **Participant** | **Role** | **Phone #** |
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